

IN THE CLAIMS:

Please cancel claims 37-51 and add new claims 52-66 as follows:

52. A signal transmission and receiving apparatus comprising a transmission apparatus and a receiving apparatus.

said transmission apparatus comprising:

- a mapper operable to map a data stream including audio and video information to an n-level digital mapped signal;

- a digital filter having an amplitude versus frequency characteristic which comprises (i) a VSB characteristic covering a frequency band including a carrier frequency, and (ii) a roll-off characteristic, said digital filter being operable to filter the n-level digital mapped signal to produce a VSB modulated signal; and

- a transmitter operable to transmit the VSB modulated signal;

said receiving apparatus comprising:

- a demodulator operable to demodulate the VSB modulated signal to the data stream including the audio and video information.

53. The signal transmission and receiving apparatus according to claim 52, wherein the digital filter is an FIR filter.

54. A signal transmission apparatus comprising:

- a mapper operable to map a data stream including audio and video information to an n-level digital mapped signal;

- a digital filter having an amplitude versus frequency characteristic which comprises (i) a VSB characteristic covering a frequency band including a carrier frequency, and (ii) a roll-off characteristic, said digital filter being operable to filter the n-level digital mapped signal to produce a VSB modulated signal; and

- a transmitter operable to transmit the VSB modulated signal.

55. The signal transmission apparatus according to claim 54, wherein the digital filter is an FIR filter.

56. A signal receiving apparatus comprising:

a receiver operable to receive a VSB modulated signal resulting from: (a) a mapper mapping a data stream including audio and video information to an n-level digital mapped signal, and (b) a digital filter filtering the n-level digital mapped signal, wherein the digital filter has an amplitude versus frequency characteristic which comprises (i) a VSB characteristic covering a frequency band including a carrier frequency, and (ii) a roll-off characteristic; and

a demodulator operable to demodulate the received signal to reproduce the data stream including the audio and video information.

57. The signal receiving apparatus according to claim 56, wherein the digital filter is an FIR filter.

58. A signal receiving apparatus according to claim 56, further comprising a video decoder operable to decode the data stream to a video signal.

59. A signal receiving apparatus according to claim 58, further comprising an output part operable to output the video signal.

60. A signal receiving apparatus according to claim 58, further comprising a display operable to display the video signal.

61. A signal transmission and receiving method comprising a transmission method and a receiving method,

said transmission method comprising:

- mapping a data stream including audio and video information to an n-level digital mapped signal;

- filtering the n-level digital mapped signal with a digital filter having an amplitude versus frequency characteristic which comprises (i) a VSB characteristic covering a frequency band including a carrier frequency, and (ii) a roll-off characteristic, to produce a VSB modulated signal;
and

- transmitting the VSB modulated signal;

said receiving method comprising:

- demodulating the VSB modulated signal to the data stream including the audio and video information.

62. The signal transmission and receiving method according to claim 61, wherein the digital filter is an FIR filter.

63. A signal transmission method comprising:

- mapping a data stream including audio and video information to an n-level digital mapped signal;

- filtering the n-level digital mapped signal with a digital filter having an amplitude versus frequency characteristic which comprises (i) a VSB characteristic covering a frequency band including a carrier frequency, and (ii) a roll-off characteristic, to produce a VSB modulated signal;
and

- transmitting the VSB modulated signal.

64. The signal transmission method according to claim 63, wherein the digital filter is an FIR filter.

65. A signal receiving method comprising:

receiving a VSB modulated signal resulting from: (a) a mapper mapping a data stream including audio and video information to an n-level digital mapped signal, and (b) a digital filter filtering the n-level digital mapped signal, wherein the digital filter has an amplitude versus frequency characteristic which comprises (i) a VSB characteristic covering a frequency band including a carrier frequency, and (ii) a roll-off characteristic; and

demodulating the received signal to reproduce the data stream including the audio and video information.

66. The signal receiving method according to claim 65, wherein the digital filter is an FIR filter.